

New species and new circumscriptions in *Stylidium* (Stylidiaceae)

Juliet A. Wege

Western Australian Herbarium, Department of Environment and Conservation, Locked Bag 104, Bentley Delivery Centre,
Western Australia 6983

Abstract

Wege, J.A. New species and new circumscriptions in *Stylidium* (Stylidiaceae). *Nuytsia* 17: 418–426 (2007). The following four triggerplants from south-west Western Australia are newly described: *Stylidium applanatum* Wege, *S. bellum* Wege, *S. diademum* Wege and *S. rosulatum* Wege. *Stylidium luteum* R.Br. subsp. *clavatum* Carlquist is raised to species level, *S. squamellosum* DC. and *S. striatum* Lindl. are redefined, *S. rigidifolium* Mildbr. is placed into synonymy under *S. striatum*, and *S. zeicolor* F.L.Erickson & J.H.Willis is reinstated. With the exception of *S. zeicolor* and *S. diademum*, all of these species have a conservation listing.

Introduction

The census of Western Australian plants currently recognises 240 taxa from the triggerplant genus *Stylidium* Sw. (Stylidiaceae), of which 75 (31%) are flagged as being of conservation concern (Western Australian Herbarium 1998–; Atkins 2006). These conservation-listed taxa are either poorly known and require further survey to understand the full extent of their distribution, or are confirmed to be rare and/or geographically restricted. It is of note that over half (60%) have been recognised in the past 20 years and either formally described or provided with manuscript or phrase names. These figures are largely a reflection of the taxonomic research effort that has been directed toward the genus in recent history, but are also indicative of the intense floristic survey and inventory that has occurred throughout the State during this period: over 6000 *Stylidium* specimens of Western Australian origin have been collected and incorporated into the collection at the Western Australian Herbarium (PERTH) in the past 20 years alone.

Sixteen conservation-listed triggerplants appear to have been collected for the first time in the past 20 years, either during regional surveys, environmental assessment, or as a result of opportunistic collecting by taxonomic or regional specialists. These include *S. keigheryi* Lowrie & Carlquist (Lowrie & Carlquist 1991), endemic to the Stirling Ranges; *S. perizostera* Lowrie & Kenneally (Lowrie & Kenneally 1997a), restricted to the northern Kimberley; *S. trudgenii* Lowrie & Kenneally (Lowrie & Kenneally 2004), from the Scott River Plain and eastern Swan Coastal Plain; *S. korijekup* Wege, B.J. Keighery & Keighery (Wege *et al.* 2007, this issue), known from a single population near Harvey; and *S. applanatum* Wege (described herein), which occurs in the Avon Wheatbelt. Additional new species, some of conservation concern, will undoubtedly be uncovered via the continued assessment of the collection at PERTH; a process that is occurring in conjunction with a revision of the genus for the “Flora of Australia”.

In contrast to the examples cited above, there are a number of triggerplants of conservation significance that were first collected in the 19th century but have only recently been recognised as distinct. In many cases, these species have been unrepresented in the PERTH collection until recently. Examples include *S. glabrifolium* Lowrie & Kenneally, collected by colonial botanist James Drummond (e.g. K 000060959, MEL 2259409A), recollected in 1991, described by Lowrie & Kenneally (1997b); *S. daphne* Lowrie & Kenneally, collected by George Maxwell (MEL 293435), recollected in 1980, described by Lowrie & Kenneally (1998); *S. validum* Wege, collected by Miss Cronin in 1894 (MEL 560875), flowering material recollected in 1999, described by Wege (2005); and *S. coroniforme* F.L.Erickson & J.H.Willis subsp. *amblyphyllum* Wege, collected by Miss Alice Eaton in 1889 (MEL 2156103), recollected in 2002, described by Wege (in Wege & Coates 2007, this issue). Two new species described in this paper, *S. bellum* Wege and *S. rosulatum* Wege, were first collected by James Drummond in the 1840s (e.g. K 000355310, MEL 2296915; and K 000060637, MEL 2259119A, respectively) but not recollected until the early 1990s. Another new species, *S. diademum* Wege, was first collected by George Maxwell (MEL 293437A) and although recollected a number of times during the 20th century, it has remained unrecognised until now.

These examples serve to highlight the continued importance of interstate and overseas herbarium collections to taxonomic studies of the Western Australian flora and, in some cases, to associated conservation efforts. Whilst the locality details surrounding these historical collections are often poor, in some cases they can provide relevant and useful information to aid in conservation efforts (e.g. see the notes below under both *S. bellum* and *S. squamellosum* DC.). The relative dearth of historical collections at PERTH is unfortunate in this respect. The lack of historical type material in particular, combined with the under-collection of uncommon or geographically restricted taxa, has resulted in the misapplication of several names in *Stylidium*. *Stylidium striatum* Lindl. and *S. squamellosum* are two such instances that are dealt with in this paper. Type specimens for a selection of more recently named Western Australian triggerplants are unfortunately also lacking at PERTH. In the case of *S. luteum* R.Br. subsp. *clavatum* Carlquist (Carlquist 1969), this factor—combined with an inadequate type description—has led to many specimens being erroneously identified as this taxon, and its geographic range and abundance have therefore been grossly overestimated. This paper elevates this distinctive, geographically restricted taxon to species level and provides a revised description.

All of the species treated herein are endemic to south-west Western Australia and belong to sect. *Saxifragoidea* Mildbr., a large and somewhat heterogeneous assemblage of south-west species characterised by: a perennial habit; non-fibrous leaves; glandular trichomes with flattened, globular or turbinate heads; ellipsoid, oblong or clavoid hypanthia; appendages in the throat of the flower; and anthers that are aligned parallel to the column and lack subtending hairs.

Methods

This study is largely based on the examination of herbarium specimens housed at the Western Australian Herbarium (PERTH), associated spirit collections and field observations. Supplementary data were obtained from specimens housed at a range of institutions, most notably the National Herbarium of Victoria (MEL), the Royal Botanic Gardens Kew (K) and Rancho Santa Ana Botanic Garden (RSA). Spirit collections from the following J.A. Wege collection numbers were used to measure floral features: *S. appianatum* – 392; *S. diademum* – 303, 1271, 1273, 1275; *S. clavatum* (Carlquist) Wege – 1034, 1036; *S. squamellosum* – 1249, 1386; *S. striatum* – 672, 679, 1101; *S. zeicolor* F.L.Erickson & J.H.Willis – 390, 393, 962, 1024. I have not examined living or spirit material of either *S. bellum* or *S. rosulatum*, although low resolution photographs of both taxa have been viewed. In both cases,

flowers were sampled from herbarium material at PERTH, rehydrated in hot water with a small amount of detergent and subsequently examined for critical features. The descriptions of these two species will need revision pending field observations and/or the availability of spirit material.

The species descriptions, generated using DELTA (Dallwitz *et al.* 1993), are not exhaustive, however, they encompass the key morphological characters that define species in the genus. The distribution maps were compiled using DIVA-GIS version 5.2.0.2. Locality information for species with a conservation listing has been withheld for conservation purposes.

Taxonomy

Stylidium applanatum Wege, *sp. nov.*

A. Stylidio glabrifolio Lowrie & Kenneally hypanthio et calycis lobis longioribus, faucis appendiculatis truncatis 8, et columna longiore differt.

Typus: near Corrigin, Western Australia [precise locality withheld for conservation purposes], 1 October 1997, J.A. Wege, R. Butcher & C. Wilkins JAW 392 (*holo*: PERTH 06962610; *iso*: CANB, MEL).

Perennial herb, 12–35 cm high. *Trichomes* glandular, 0.2–0.4 mm long, stalks translucent to yellowish, heads dark yellow to black, turbinate or subglobose; eglandular trichomes absent. *Stems* compact, part-buried, stilt roots absent. *Leaves* rosulate, adpressed to soil, oblanceolate, flat in T.S., apex subacute, margin entire, 1.5–4 cm long, 2.5–6 mm wide, glabrous. *Scapes* 10–35 cm high, 0.5–1.7 mm wide, bearing scattered sterile bracts, glabrous; sterile bracts 3.5–6.5 mm long, glabrous. *Inflorescence* paniculate or racemose, 5–30-flowered, 1–3 flowers per unit, branches glabrous or glandular; bracts narrowly ovate, apex subacute, margin entire, 2.5–6 mm long, glabrous or sparingly glandular along margin; bracteoles similar but smaller; pedicels 6–17 mm long, distally glandular. *Hypanthium* clavoid to obloid, slightly compressed in T.S., 2.8–5 mm long, 1–1.5 mm wide, glabrous or subglabrous. *Calyx lobes* free, apex obtuse to subacute, margin entire, 3–4.5 mm long, 0.8–1.5 mm wide, glabrous. *Corolla* pale yellow, without markings, glabrous, tube 1 mm long; lobes laterally-paired, narrowly ovate, the anterior side of the anterior lobes slightly arcuate, 5–6.5 mm long, 2.5–3.3 mm wide. *Labellum* twisted across the calyx lobes; boss ovate, margin entire, c. 0.7 mm long, c. 0.5 mm wide, glabrous; terminal appendage 1.2–1.5 mm long; lateral appendages 0.2–0.5 mm long. *Throat appendages* 8, quadrate to oblong, truncate, \pm emarginate, 0.4–0.8 mm high, yellow with maroon tips, subtended by 3 yellow mounds. *Column* 9.5–12 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Mature capsules* not viewed. (Figures 1A, B)

Other specimens examined. WESTERN AUSTRALIA: [localities withheld] M. Osborne 195, 26 Sep. 1995 (PERTH); 15 Oct. 1995, J.A. Wege & K.A. Shepherd JAW 42 (PERTH).

Distribution. Found near Corrigin in the Avon Wheatbelt of south-west Western Australia (Figure 2).

Habitat. Red-brown loam or yellow-brown clay on lateritic ridges and hillslopes. *Eucalyptus macrocarpa* and *E. pluricaulis* shrubland with *Dryandra cirsiodoides*, *Allocasuarina campestris*, *Gastrolobium spinosum*, *Petrophile glauca*, *Stylidium caricifolium* and *S. eriopodum*.

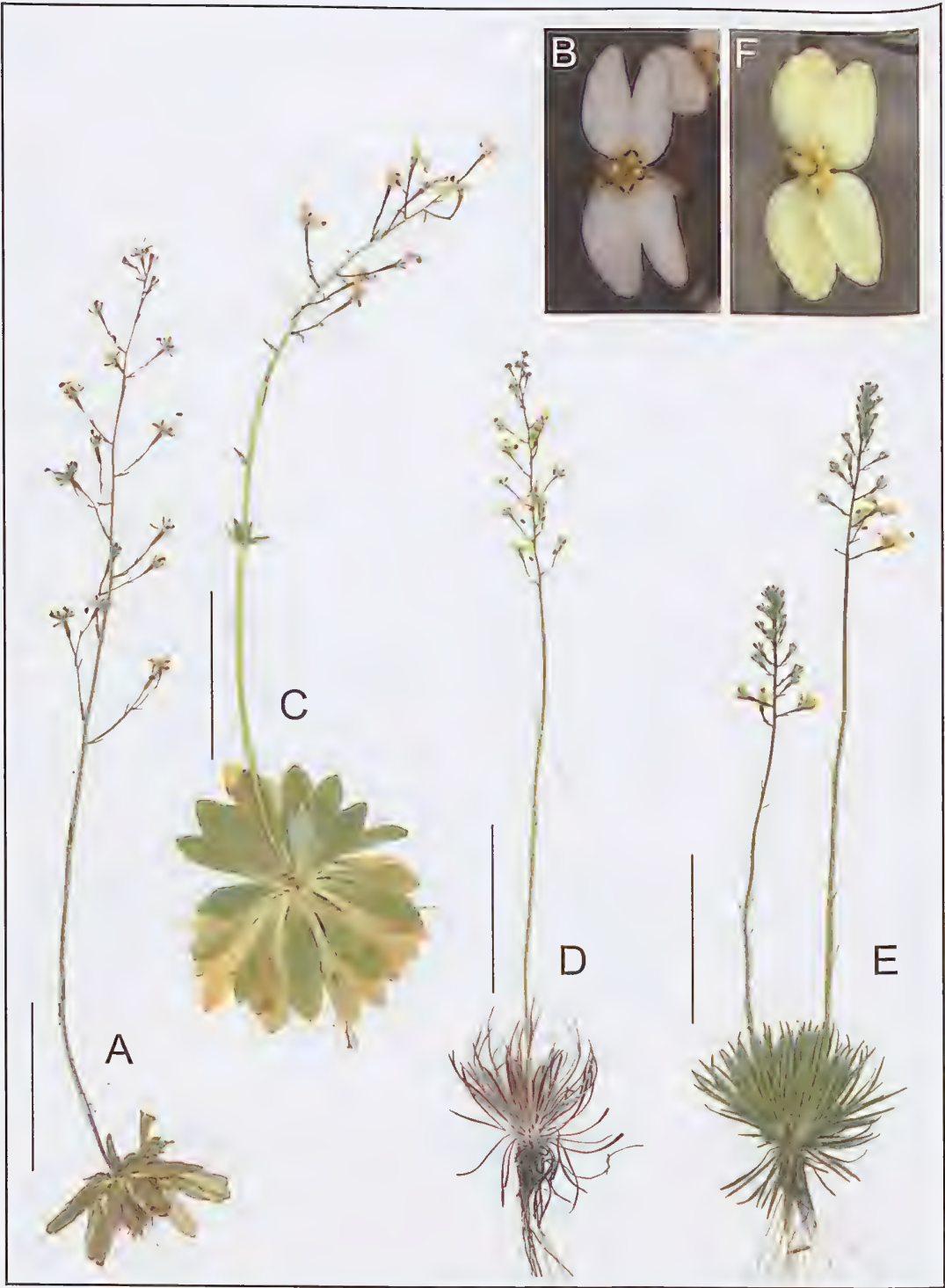


Figure 1. A—habit of *Stylidium applanatum*; B—flower of *S. applanatum*; C—habit of *S. bellum*; D—habit of *S. clavatum*; E—habit of *S. diademum*; F—flower of *S. diademum*. Scale = 5cm. Images from J.A. Wege, R. Butcher & C. Wilkins JAW 392 (A, B), E.M. Sandiford EMS 1050 (C), J.A. Wege & C. Wilkins JAW 1036 (D) and J.A. Wege 1275 (E, F). Flower photographs: J. Wege.

Phenology. Flowers have been recorded from late September and October.

Conservation status. *Stylidium applanatum* is known from only two populations found in a region characterised by massive land clearance. It is not known to occur within protected lands and is consequently listed as Priority One under the Department of Environment and Conservation's (DEC) Conservation Codes for Western Australian Flora (Atkins 2006). Immediate further survey is recommended to determine the extent of its range and whether its conservation listing should be upgraded to Declared Rare Flora.

Chromosome number. Unknown.

Etymology. This species is named for its leaf rosette which is adpressed to the soil surface.

Spotting features. A flat rosette of oblanceolate, glabrous leaves; yellow flowers arranged in panicles; 8 truncate and maroon-tipped throat appendages.

Affinities. *Stylidium applanatum* has morphological affinity to *S. glabrifolium* which possesses similarly flattened and glabrous leaves and yellow flowers with maroon-tipped throat appendages; however, *S. glabrifolium* has a shorter hypanthium, shorter calyx lobes, a discretely shorter column (6–7.5 mm) and flowers with 6 oblong throat appendages that are either entire, bi- or tri-furcate. *Stylidium applanatum* is also morphologically similar to *S. korijekup*, a new species from the Harvey region that differs most obviously from *S. applanatum* in having distinctly petiolate leaves and six oblong throat appendages (see Wege *et al.* 2007, this issue).

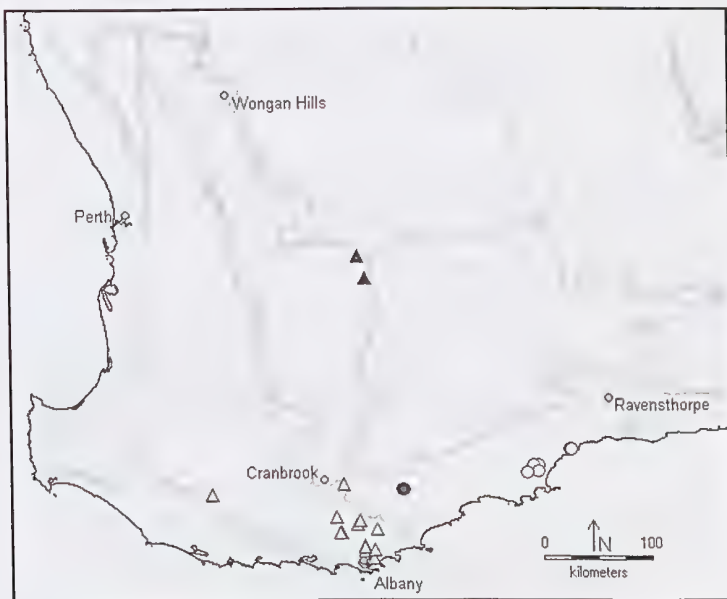


Figure 2. Distribution of *Stylidium applanatum* (▲), *S. bellum* (●), *S. clavatum* (○) and *S. diadenum* (△) in south-west Western Australia. Version 6.1 IBRA regions (Department of the Environment and Water Resources 2007) are indicated in grey.

***Stylidium bellum* Wege, sp. nov.**

Species haec ab *Stylidio articulato* R.Br. foliis pallidis viridibus, scapis et calycis lobis glabris, et faucis appendicibus 8 differt.

Typus: Stirling Range National Park, Western Australia [precise locality withheld for conservation purposes], 7 February 2005, *E.M. Sandiford* EMS 1050 (*holo*: PERTH 07335792; *iso*: MEL).

Stylidium sp. Stirling Range (S. Barrett 1275), Western Australian Herbarium, in FloraBase, <http://florabase.dec.wa.gov.au> [accessed June 2007].

Perennial herb, 15–30 cm high. *Trichomes* glandular, 0.1–0.4 mm long, stalks translucent, heads pale red to black, disciform or subglobose; eglandular trichomes absent. *Stems* compact or shortly elongated beneath leaf rosette. *Leaves* rosulate, oblanceolate to spatulate, flat in T.S., apex subacute or acute or acuminate, margin entire, \pm narrowly-hyaline, 2.5–6 cm long, 5–13 mm wide, \pm glandular along margin, faintly striate, pale green, glaucous, slightly discolorous. *Scapes* 15–30 cm high, 1.5–3 mm wide, with a whorl of sterile bracts positioned 2–6.5 cm below the inflorescence and scattered bracts \pm above, glabrous; sterile bracts 5–12 mm long, \pm glandular along margin. *Inflorescence* racemose, 10–21-flowered, somewhat glaucous; bracts solitary at base of each inflorescence unit, sometimes whorled at the base of the inflorescence, erect to reflexed, lanceolate to narrowly ovate, apex subacute to acute, margin entire, 3.5–9 mm long, glabrous; bracteoles similar but smaller; pedicels 8–17 mm long, glandular. *Hypanthium* clavoid to obloid, slightly compressed in T.S., 4–5 mm long, 1–1.5 mm wide, sparingly glandular. *Calyx lobes* part-fused (2 fused and 3 free), apex subacute to acute, margin entire, 2.2–3.3 mm long, 0.8–1 mm wide, glabrous. *Corolla* candy pink, glabrous, tube 2–3 mm long; lobes laterally-paired, elliptic to obovate, *c.* 6.5–7 mm long, *c.* 4.5–5 mm wide. *Labellum* twisted across the calyx lobes; boss ovate, margin entire, 0.9–1.1 mm long, 0.6–0.9 mm wide, glabrous; terminal appendage 1–1.4 mm long; lateral appendages 0.2–0.4 mm long. *Throat appendages* 8, oblong, 1.8–2.5 mm high, with dark pink tips. *Column* *c.* 12–14 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* clavoid to obloid, 5.5–8 mm long. (Figure 1C)

Specimens examined. WESTERN AUSTRALIA: [localities withheld] 9 Mar. 1995, *S. Barrett* 331.5 (PERTH); 12 Jan. 2005, *S. Barrett* 1275 (PERTH); *s. dat.*, *J. Drummond* 348 (BM, CGE, K 000355310, MEL 2296915, P, TCD, W).

Distribution. Endemic to the Stirling Range National Park in southern Western Australia (Figure 2).

Habitat. Mountain peaks and saddles. Rocky overhangs near waterfalls. Brown loam or clayey-sand on quartzite. Recorded growing with sedges, dwarf scrub and moss, and in moss beds adjacent to *Xyris exilis*.

Phenology. A summer-blooming triggerplant, with flowers recorded for January and February.

Conservation status. Recently listed as Priority Two under DEC Conservation Codes for Western Australian Flora. Currently known from a single population. Further survey is required.

Chromosome number. Unknown.

Etymology. The specific epithet is derived from the Latin for pretty (*bellus*).

Spotting features. Pale green and glaucous, oblanceolate or spathulate leaves arranged in a spreading rosette; glabrous scapes bearing a single whorl of sterile bracts; pink flowers arranged in racemes; 8 oblong throat appendages.

Affinities. *Stylidium bellum* is morphologically allied to *S. articulatum* R.Br., a species confined to the coastal granites from Two Peoples Bay to Cheyne Beach, east of Albany. Both species have a comparable habit, similar bracts, and racemes of pink, laterally-paired flowers bearing oblong throat appendages. Unlike *S. bellum*, *S. articulatum* has a densely glandular inflorescence (including the rachis, pedicels, hypanthium and calyx lobes), glabrous and strongly discolorous leaves (the adaxial surface is dark green), and flowers with six throat appendages.

Stylidium bellum may also be confounded with *S. rosulatum*, a species that is also confined to montane habitats in the Stirling Ranges. Unlike *S. bellum*, the stems of *S. rosulatum* are stoloniferous and the inflorescences usually branched. *Stylidium rosulatum* also has a shorter hypanthium, shorter and narrower calyx lobes, smaller corolla lobes and throat appendages, and a much shorter column.

Notes. James Drummond made the first gatherings of both *S. bellum* (*J. Drummond* 348) and *S. rosulatum* (*J. Drummond* 349; see description below). No locality information is provided with the specimens; however, in an account of his collecting activities on Mt Toolbrunup, published in *The Inquirer* on April 14th 1847, Drummond commented on “a rose-coloured *Stylidium*, with glaucous leaves” which was new to him (see Barker 1996). Although there are no other collections of either *S. bellum* or *S. rosulatum* from this peak, I am confident that Drummond was referring to one of these species.

Drummond’s gatherings of both species were viewed by George Bentham and used by him, in part, to describe *S. striatum* var. *glaucum* Benth. (Bentham 1868). Several other syntypes were cited, which collectively represent four distinct species. The synonymy of *S. striatum* var. *glaucum* will be dealt with in a forthcoming paper on the *S. brunonianum* Benth. complex (Wege in prep.).

German botanist Johannes Mildbraed viewed a duplicate of Drummond’s collection of *S. bellum* and, in a revision of *Stylidium* for Engler’s “Pflanzenreich”, he tentatively placed it under *S. articulatum* on account of its large leaves and robust scape; however, he commented that it differs from this species in having a glabrous inflorescence and sparingly glandular leaf margin (Mildbraed 1908: 65). Mildbraed was unable to make a formal taxonomic assessment since the specimen was only in bud. A collection by Sarah Barrett (PERTH 04208498), which is similarly in bud, is akin to specimens of *S. bellum* but the leaves are narrower, the lower inflorescence units are 2-flowered and the flowers, although not fully developed, appear slightly smaller. This collection has been annotated as *S. ?bellum* until further research can clarify its status.

***Stylidium clavatum* (Carlquist) Wege, stat. nov.**

Stylidium luteum subsp. *clavatum* Carlquist, *Aliso* 7(1): 36 (1969). *Type*: East Mt Barren, Western Australia, 4 November 1967, *S. Carlquist* 4007a (*holo*: RSA 198458!).

Tufted perennial herb, 20–70 cm high. *Trichomes* glandular, 0.1–0.2 mm long, stalks translucent to yellow, heads yellow to brown-black, disciform; eglandular trichomes absent. *Stems* somewhat condensed to shortly elongated, usually unbranched, stilt roots present. *Leaves* rosulate, erect, linear

to narrowly oblanceolate, broadly obtriangular in T.S., apex subacute to acute, margin entire, 2–8 cm long, (0.6–)1–2 mm wide, glabrous, \pm glaucous. *Scapes* 18–68 cm high, 0.6–2.5 mm wide, bearing scattered sterile bracts, glabrous; sterile bracts 3–18 mm long, glabrous. *Inflorescence* racemose, 8–53-flowered, \pm glaucous; bracts linear to subulate, apex subacute, margin entire, 2–8.5 mm long, glabrous; bracteoles similar but smaller; pedicels 3.5–13 mm long, sparingly glandular. *Hypanthium* clavoid to ellipsoid, slightly compressed in T.S., 1.5–3.5 mm long, 0.7–1.4 mm wide, glabrous or subglabrous. *Calyx lobes* free, apex obtuse to subacute, margin entire, 2.2–4 mm long, 0.7–1.2 mm wide, glabrous. *Corolla* pale yellow, without markings, glabrous, tube 0.8–1.2 mm long; lobes laterally-paired, elliptic to oblong, 4.8–7 mm long, 2.5–4 mm wide. *Labellum* twisted across the calyx lobes; boss yellow, ovate, margin entire, 0.6–0.8 mm long, 0.4–0.7 mm wide, glabrous; terminal appendage yellow, 0.4–0.8 mm long; lateral appendages absent or rudimentary. *Throat appendages* 6, oblong, slightly capitate and laterally-flattened, each pair of posterior appendages fused at base, 0.3–0.7 mm high, subtended by 3 yellow mounds. *Column* 10–12 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* clavoid to ellipsoid, c. 4–5 mm long. (Figure 1D)

Selected specimens (8 examined). WESTERN AUSTRALIA: [localities withheld] 27 Nov. 2002, M. Hislop, S. Barrett & J.A. Cochrane MH 2862 (PERTH); 9 Sep. 1974, K.R. Newbey 4344 (PERTH); 26 Oct. 2003, J.A. Wege & C. Wilkins JAW 1034 (MEL, PERTH); 26 Oct. 2003, J.A. Wege & C. Wilkins JAW 1036 (CANB, PERTH).

Distribution. Largely confined to the Fitzgerald River National Park on the south coast of Western Australia (Figure 2).

Habitat. Plains and lower hillslopes. Sand or sandy loam over quartzite. Shrubland with emergent mallee or heath with *Dryandra quercifolia* and *Hakea hookeriana*.

Phenology. Flowers have been recorded from September to November.

Conservation status. *Stylidium clavatum* has a very localized distribution and is known from only a handful of localities, the majority of which occur within Fitzgerald River National Park. Listed as Priority Three under DEC Conservation Codes for Western Australian Flora (Atkins 2006).

Chromosome number. Unknown.

Spotting features. A stilt habit; tufted, linear and glabrous leaves; scapes bearing scattered bracts; a glabrous, clavoid to ellipsoid hypanthium; flowers in racemes; pale yellow flowers without markings.

Affinities. Carlquist (1969) recognised *S. clavatum* as a subspecies of *S. luteum*, probably on the basis of habit and flower colour; however, these two species differ in a number of features. Unlike *S. clavatum*, *S. luteum* has smaller flowers arranged in panicles, a globose to ellipsoid hypanthium covered in glandular hairs, and a shorter column (7–8.5 mm long). The corolla lobes of *S. luteum* are a much deeper and brighter shade of yellow and, unlike *S. clavatum*, possess small maroon-red throat markings as well as prominent maroon-red markings on the reverse. Although *S. luteum* similarly occurs along the south coast of the State, it is not known to overlap in distribution with *S. clavatum*; the majority of populations occur west of Wellstead, although there is one outlier record from east of Jerramungup (R.J. Cranfield 1091; a surprising and perhaps questionable mixed collection with *S. zeicolor*).

Stylidium clavatum may be confused with *S. zeicolor*, which extends into the northern portion of Fitzgerald River National Park. The two species are most readily distinguished using features of leaf morphology: obtriangular in T.S. and glabrous in *S. clavatum*, flat in T.S. and with glandular margins in *S. zeicolor*. *Stylidium zeicolor* also has a discretely longer column (14–17.5 mm long).

***Stylidium diadenum* Wege, sp. nov.**

Ab speciebus *Stylidii* Australiae austro-occidentalis aliis omnibus turma sequenti characterum distinguitur: foliorum rosula linearis glandulosa, flores flavi et faucis appendiculati glandulosi.

Typus: 1 km west on Simpson Road from Chester Pass Road, north of Albany, Western Australia, 4 November 2004, J.A. Wege 1275 (*holo*: PERTH 07011652; *iso*: CANB, MEL).

Stylidium diadematum Wege ms, Western Australian Herbarium, in FloraBase, <http://florabase.dec.wa.gov.au> [accessed June 2007].

Tufted perennial herb, 8–45 cm high. *Trichomes* glandular, 0.15–0.4 mm long, stalks yellow, heads yellow to dark brown, disciform or subglobose to turbinate; eglandular trichomes absent. *Stems* somewhat condensed, to 1 cm long, stilt roots present. *Leaves* rosulate, erect, linear to narrowly oblanceolate, flat to very broadly v-shaped in T.S., apex acute to subacute and occasionally hooked, margin entire, 1–4 cm long, 0.5–2 mm wide, margins and adaxial surface conspicuously glandular, hairs confined to midrib on abaxial surface. *Scapes* 6–45 cm high, 0.5–2.2 mm wide, bearing scattered sterile bracts, glabrous or sparingly glandular; sterile bracts 3–7 mm long, sparingly glandular. *Inflorescence* racemose, 5–40-flowered; bracts subulate, apex subacute, margin entire, 2–4.5 mm long, glabrous or sparingly glandular; bracteoles similar but smaller; pedicels 2.5–16 mm long, glandular. *Hypanthium* ellipsoid, very slightly compressed in T.S., 1.5–3 mm long, 1–1.6 mm wide, glabrous or with a few hairs at the base. *Calyx lobes* free, apex subacute, margin entire, 2.5–4 mm long, 0.7–1.2 mm wide, ± glandular along margins. *Corolla* pale yellow, without throat markings, stained reddish on reverse, glabrous, tube 0.7–1.2 mm long; lobes laterally-paired, elliptic to oblong or narrowly ovate, the anterior side of the anterior lobes slightly arcuate, 4–6.5 mm long, 2.5–4 mm wide. *Labellum* partially to fully twisted across the calyx lobes; boss yellow, ovate to elliptic, margin entire, 0.7–1 mm long, 0.5–0.6 mm wide, fringed with glandular hairs; terminal appendage yellow, 0.7–1 mm long; lateral appendages absent or rudimentary. *Throat appendages* (6)8, gland-tipped, dimorphic, yellow; the two anterior appendages subulate or tooth-like, 0.1–0.3 mm high, occasionally absent; the remaining appendages irregular, laterally-flattened and with truncate apices, 0.4–0.8 mm high, subtended by 3 yellow mounds. *Column* 11–13 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* not viewed. (Figures 1E, F)

Selected specimens (16 examined). WESTERN AUSTRALIA: off Scenic Drive, Porongurup National Park, 19 Nov. 2000, A. Burchell 471 (PERTH); c. 3 miles W Karri Bank, Porongurup, Oct. 1966, S. James 66.10/31 (PERTH); Millbrook Nature Reserve, 35 km NNE Albany, 2 Nov. 1986, G.J. Keighery 8970 (PERTH); 1.2 km W of Ireland Road on Muir Highway, E of Manjimup, 3 Nov. 2004, J.A. Wege 1271 (AD, CANB, PERTH); reserve at corner of Albany Highway and Hannan Way, E of Narrikup, 4 Nov. 2004, J.A. Wege 1273 (AD, MEL, PERTH).

Distribution. A cluster of populations are known from around Albany and the Porongurup Ranges, with outlying records from near Lake Muir, over 100 km to the west (Figure 2).

Habitat. Growing in sand or sandy-loam over laterite or granite, on lower hillslopes or granite hills. Known to occur in *Eucalyptus marginata* woodland, *Eucalyptus* and *Allocasuarina* woodland and *Eucalyptus* and *Acacia* woodland.

Phenology. Flowering during October and November.

Conservation status. *Stylidium diadenum* appears to have a fairly narrow geographic range and information on population numbers is limited; however, it is known to occur within conservation reserves at a number of localities and is not thought to be under any immediate threat. It seems reasonable to expect that targeted searches between Lake Muir and Mt Barker will yield additional populations. No conservation code is thought warranted.

Chromosome number. James (1979) recorded a count of $n = 13$ (PERTH 02948362), under the name *S. spathulatum* R.Br. subsp. *glandulosum* (Mildbr.) Carlquist.

Etymology. The specific epithet is derived from the Greek (*diadema*, a royal headdress) and refers to the crown-like arrangement of the gland-tipped (hence seemingly jewelled) throat appendages.

Spotting features. Stilt habit; tufted and glandular leaves; glabrous to subglabrous scapes bearing scattered sterile bracts; yellow flowers; irregular, gland-tipped throat appendages.

Affinities. Habit, leaf shape and flower morphology suggest an affinity to *S. glandulosissimum* Wege, a species that occurs from the Stirling Ranges south-east to Wellstead. *Stylidium glandulosissimum* is easily differentiated from *S. diadenum* by its dense and sticky leaf, scape and inflorescence indumentum; conversely, it lacks glands on the throat appendages and labellum margin.

Notes. Early collections of *S. diadenum* were made by both George Maxwell (MEL 293437) and Thomas Muir (MEL 2259101A). It was subsequently collected a number of times during the second half of the 20th century and these specimens variously identified as *S. rupestre* Sond., *S.* “non-rupestre”, *S. luteum* var. *glandulosum* Mildbr., *S. spathulatum* subsp. *glandulosum*, *S. spathulatum* var. *lehmannianum* (Sond.) Mildbr., *S. luteum*, *S. squamellosum*, *S. aff. squamellosum* and *S. zeicolor*. It is feasible that a specimen of *S. diadenum* was amongst the syntypes of *S. luteum* var. *glandulosum* (see Wege 2006, under *S. glandulosissimum*).

***Stylidium rosulatum* Wege, sp. nov.**

Stylidio bello Wege affinis sed stolonibus rubris, inflorescentiis paniculatis et floribus minoribus differt.

Typus: Stirling Range National Park, Western Australia [precise locality withheld for conservation purposes], 13 November 2002, E.M. Sandiford EMS 678 (*holo:* PERTH 06787959; *iso:* MEL).

Stylidium sp. Mt Success (E.M. Sandiford EMS 678), Western Australian Herbarium, in FloraBase, <http://florabase.dec.wa.gov.au> [accessed June 2007].

Perennial herb, c. 10–25 cm high. *Trichomes* glandular, 0.1–0.3 mm long, stalks translucent, heads red to black, disciform to subglobular; eglandular trichomes absent. *Stems* stoloniferous, giving rise to leaf rosettes at nodes, 2–12 cm long. *Leaves* rosulate, \pm scattered along internodes, oblanceolate

to spatulate, flat in T.S., apex subacute to acuminate, margin entire, \pm narrowly hyaline, (1–)2–5 cm long, 3–11 mm wide, glabrous or sparingly glandular along margin, faintly striate, pale green, glaucous, discolourous. *Scapes* 10–15 cm high, 1–1.5 mm wide, lacking sterile bracts, glabrous. *Inflorescence* paniculate, occasionally racemose, 7–45-flowered, 1 or 2 flowers per unit, branches glabrous; bracts solitary at base of each inflorescence unit but whorled at the base of the inflorescence, erect to reflexed, lanceolate to narrowly ovate, apex subacute to acute, margin entire, 3–7 mm long, \pm sparingly glandular at margin; bracteoles similar but smaller, glabrous; pedicels 4–7 mm long, glandular. *Hypanthium* clavoid to ellipsoid, slightly compressed in T.S., 1.5–2.5 mm long, 0.8–1.1 mm wide, glabrous to subglabrous. *Calyx lobes* part-fused (with 2 fused in lower half), apex subacute, 1.5–2 mm long, 0.3–0.5 mm wide, margin entire, glabrous. *Corolla* pale to medium pink, glabrous, tube c. 1–1.3 mm long; lobes laterally-paired, elliptic to obovate, c. 4–5 mm long, c. 1.5–1.7 mm wide. *Labellum* twisted across the calyx lobes; boss ovate, margin entire, 0.4–0.5 mm long, 0.3–0.4 mm wide, glabrous; terminal appendage 0.5–0.6 mm long; lateral appendages c. 0.1 mm long. *Throat appendages* 8, oblong, c. 0.3–0.5 mm high. *Column* c. 5–6 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* not viewed. (Figure 3A)

Other specimens examined. WESTERN AUSTRALIA: [localities withheld] *s. dat.*, J. Drummond 349 (BM, CGE, FI, K 000060637, K 000355311, MEL 2259119A, OXF, P, W); 3 Feb. 1993, C.J. Robinson 1088 (PERTH).

Distribution. Endemic to the Stirling Range National Park in south-west Western Australia (Figure 4).

Habitat. Rocky overhangs and ledges on steep, upper mountain slopes. Low herbland.

Phenology. Flowering from late November to February.

Conservation status. Recently listed as Priority Two under DEC Conservation Codes for Western Australian Flora. Currently known from only two populations. Further survey is required.

Chromosome number. Unknown.

Etymology. From the Latin (*rosulatus*) in reference to the rosetted habit of this species.

Spotting features. A stoloniferous habit; spreading rosettes of grey-green leaves that are faintly striate; a whorl of fertile bracts at the base of the inflorescence; paniculate (occasionally racemose) inflorescences; pink flowers with a short column.

Affinities. *Stylidium rosulatum* is morphologically similar to *S. bellum*, which is also endemic in the Stirling Ranges (see affinities and notes under *S. bellum*).

Stylidium squamellosum DC., Prod. 7(2): 782 (1839). *Candollea squamellosa* (DC.) F.Muell. Syst. Cens. Aust. Pl.: 86 (1882). *Type*: Swan River [Western Australia], *s. dat.*, J. Drummond *s.n.* (*holo*: G-DC!; *iso*: BM!, CGE!, K 000060859!, M!).

Stylidium caespitosum R.Br. var. *subbulbosum* Benth., Fl. Austral. 4: 12 (1868). *Type*: Swan River [Western Australia], *s. dat.*, J. Drummond 172 (*lecto*, here designated: K 000060860!; *isolecto*: BM000797479!, CGE!, FI!, K 000060856!, MEL 2259102A!, NSW!, TCD!, W!). Swan River [Western Australia], *s. dat.*, J. Drummond *s.n.* (*paralecto*: BM!, CGE!, G-DC!, K 000060859!, M!).

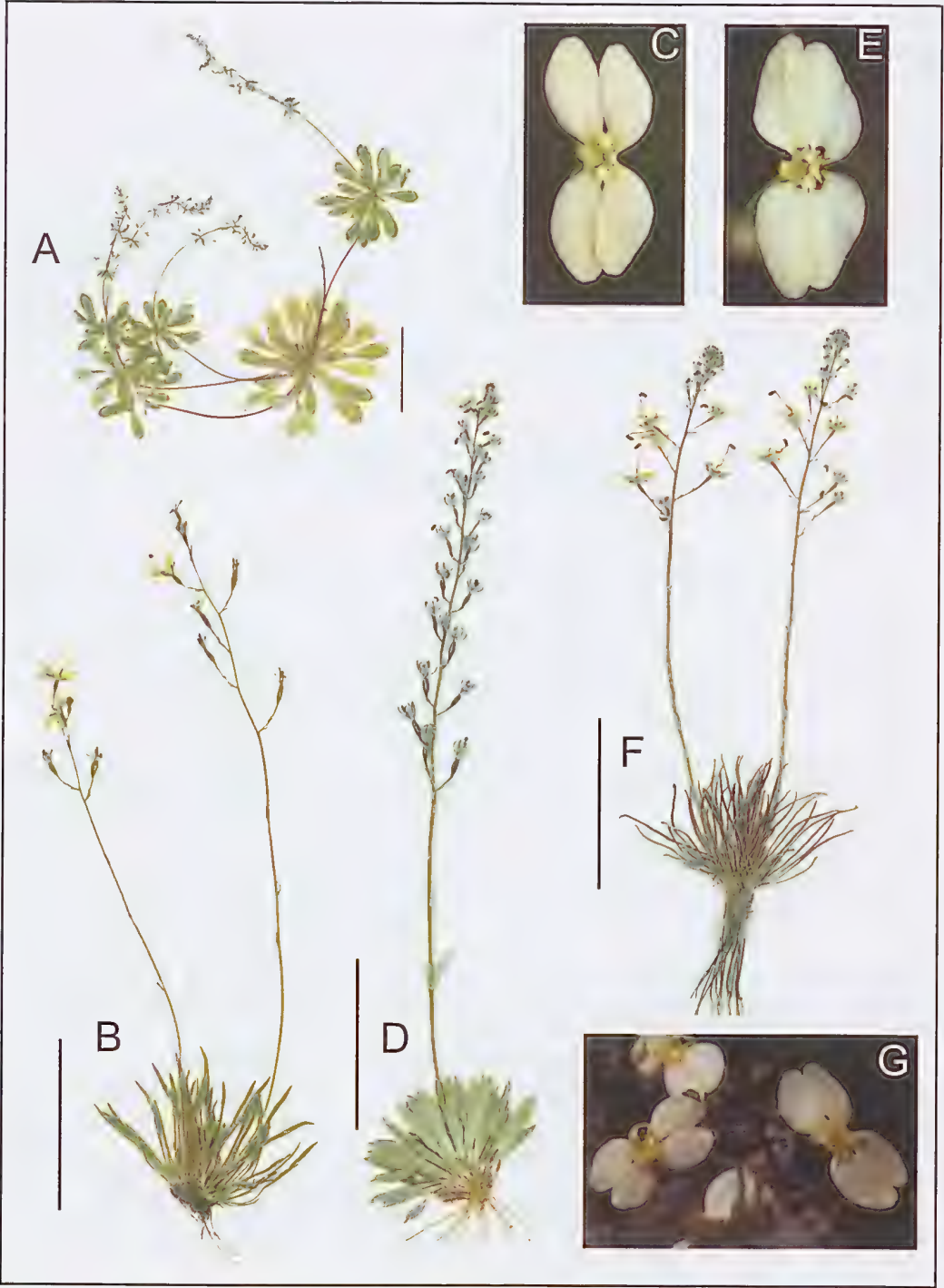


Figure 3. A – habit of *Stylidium rosulatum*; B – habit of *S. squamellosum*; C – flower of *S. squamellosum*; D – habit of *S. striatum*; E – flower of *S. striatum*; F – habit of *S. zeicolor*; G – flowers of *S. zeicolor*. Scale = 5 cm. Images from E.M. Sandiford EMS 678 (A), F. & B. Hort 2925 (B), J.A. Wege & F. Hort JAW 1386 (C), J.A. Wege 1375 (D), J.A. Wege 1101 (E), J.A. Wege, C. Wilkins & R. Butcher JAW 390 (F), J.A. Wege & C. Wilkins JAW 1024 (G). Flower photographs: J. Wege.

Caespitose perennial herb, 10–35 cm high. *Trichomes* glandular, 0.2–0.6 mm long, stalks translucent to yellowish, heads yellow to brown-black, turbinate; eglandular trichomes absent. *Stems* compact, part-buried or at ground level, stilt roots absent. *Leaves* rosulate, erect, linear to narrowly oblanceolate, flat in T.S., apex subacute, margin entire, 1–6 cm long, 0.7–2.5 mm wide, glandular on margins and abaxial surface. *Scapes* 10–35 cm high, 0.8–1.5 mm wide, bearing scattered sterile bracts, glandular; sterile bracts 2–10 mm long, glandular. *Inflorescence* racemose, (2–)5–20-flowered; bracts subulate, apex subacute, margin entire, 2–3 mm long, glandular; bracteoles 1–2 mm long, \pm sparingly glandular; pedicels 3–25 mm long, glandular. *Hypanthium* ellipsoid to obloid, slightly compressed in T.S., 2.5–5 mm long, 0.8–1.6 mm wide, glandular. *Calyx lobes* free, apex obtuse to subacute, margin entire, 2.5–4.5 mm long, 0.5–1 mm wide, glandular. *Corolla* pale yellow, without throat markings, stained maroon-brown on reverse, glabrous, tube 0.8–1.2 mm long; lobes laterally-paired, elliptic to narrowly ovate, 4.5–7 mm long, 2.5–3.8 mm wide. *Labellum* twisted across the calyx lobes; boss yellow, ovate, margin entire, 0.7–1 mm long, 0.5–0.7 mm wide, glabrous or glandular along margin; appendages yellow to maroon, terminal appendage 0.5–0.9 mm long; lateral appendages 0.1–0.2 mm long. *Throat appendages* 6, tooth-like, 0.1–0.3 mm high, yellow with maroon tips, subtended by 3 yellow mounds. *Column* 10–11.5 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* clavoid, c. 5–6.5 mm long. (Figures 3B, C)

Selected specimens (6 examined). WESTERN AUSTRALIA: [localities withheld] 27 Oct. 1967, *S. Carlquist* 3910 (MEL, PERTH, RSA); 2 Nov. 2004, *F. Hort & L. Boyle* FH 2379 (PERTH); 25 Oct. 2006, *F. & B. Hort* 2925 (AD, MEL, PERTH); 16 Oct. 2001, *G.J. Keighery & N. Gibson* 2955 (PERTH); 1 Nov. 2004, *J.A. Wege* 1249 (CANB, MEL, PERTH).

Distribution. Currently known from three disjunct regions in south-west Western Australia: near Muchea, south of Busselton and south of Bowelling (Figure 4).

Habitat. Winter-wet habitats and depressions. Red to brown clay loam. Shrubland or heathland with scattered wandoo, or tall shrubland with *Dryandra squarrosa* and *Calothamnus quadrifidus*.

Phenology. Flowering in October and November.

Conservation status. Known from only a handful of recent collections and population numbers appear relatively low. Currently listed as Priority Two under DEC Conservation Codes for Western Australian Flora (Atkins 2006). Further survey is required.

Chromosome number. Unknown. The chromosome counts provided by James (1979) are referable to *S. zeicolor* (see below).

Taxonomic history. De Candolle (1839) based the name *S. squamellosum* on a specimen collected by James Drummond prior to his first numbered series. Judging by the information on his collections given in Erickson (1969) and our present-day understanding of this species, it seems likely that the holotype was collected in the vicinity of the Swan Valley. Bentham (1868: 12) did not recognise *S. squamellosum*; however, in naming *S. caespitosum* var. *?subbulbosum* he states that *S. squamellosum* “is probably this variety”. He cited two comparable syntypes, one of which (“Drummond 1st collection”) I interpret as an isotype of *S. squamellosum*. Mildbraed (1908) reinstated *S. squamellosum*, correctly treating *S. caespitosum* var. *?subbulbosum* as a synonym.

De Candolle (1839), and later both Mildbraed (1908) and Erickson (1958), incorrectly described the flowers of *S. squamellosum* as purple, rather than their true pale yellow colour. The abaxial surface of the corolla is stained maroon-brown and therefore pressed material is readily misinterpreted. None of these botanists saw living material and Erickson may not have viewed herbarium material: no collections were available to her in Western Australia and her description appears to be based on that provided by Mildbraed.

Stylidium squamellosum has remained a poorly collected taxon throughout the 20th century. Cecil Andrews made a collection from near Perth in 1902 (1st Coll. No. 501, BM) but the species was not recollected until 1967 when Sherwin Carlquist made a gathering from near Bullsbrook (*S. Carlquist* 3910). Not realising the significance of his find, he erroneously placed the morphologically distinct and widespread taxon *S. zeicolor* into synonymy under *S. squamellosum*, commenting that his collection, whilst hairier than *S. zeicolor*, was not taxonomically discrete (Carlquist 1969: 37). The name *S. squamellosum* has since been widely misapplied in Western Australia.

Spotting features. A non-stilt habit; tufted leaves with glandular margins; glandular scapes bearing scattered bracts; yellow flowers with tiny maroon-tipped throat appendages; clavoid capsules.

Affinities. *Stylidium squamellosum* closely resembles *S. zeicolor*, a species with similar leaves, inflorescences, corolla lobes and capsules; however, the two species differ in a number of respects. *Stylidium squamellosum* has a caespitose habit in which the stem stock remains at ground level whereas the stems of *S. zeicolor* are elevated above the soil surface and supported by stilt roots. Unlike *S. zeicolor*, glandular hairs are present throughout the length of the scape in *S. squamellosum*, as well as on the bracts, hypanthium and calyx lobes. *Stylidium squamellosum* also has morphologically distinct throat appendages and a discretely shorter column. These two species have different habitat preferences and are not known to overlap in distribution.

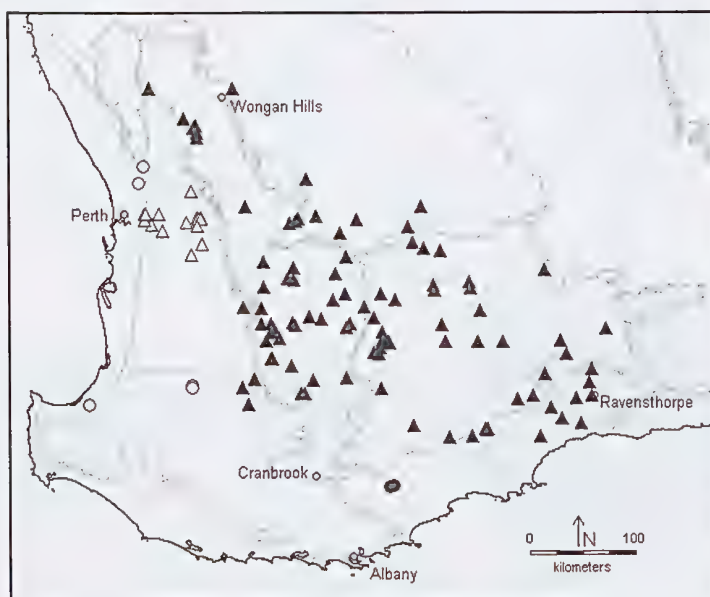


Figure 4. Distribution of *Stylidium rosulatum* (●), *S. squamellosum* (○), *S. striatum* (△) and *S. zeicolor* (▲), in south-west Western Australia. Version 6.1 IBRA regions (Department of the Environment and Water Resources 2007) are indicated in grey.

Notes. A collection by George Maxwell from “the flats on the Gordon River” (MEL 2259104) appears referable to *S. squamellosum*. It would be of interest to survey suitable habitats in this region in order to confirm this tentative identification and putative range extension.

Stylidium striatum Lindl., Sketch Veg. Swan R. xxviii (1839). *Candollea striata* (Lindl.) F.Muell. Syst. Cens. Aust. Pl.: 86 (1882). *Type*: not cited [Swan River, Western Australia, *s. dat.*, J. Drummond *s.n.*] (*holo*: CGE!; *iso*: BM, 2 sheets!, G!, G-DC!, K 000060906!, K 000060907!).

Stylidium rigidifolium Mildbr., in A. Engler, Pflanzenreich, 35, IV, 278: 60 (1908). *Type*: Ohne Standort [no locality], Western Australia, 1839, J. Drummond 312 (*lecto*, here designated: W!).

Illustrations. Mildbraed (1908) p. 63, Figure 20 A–D, as *S. rigidifolium*; Grieve & Blackall (1982) p. 731, No. 4, as *S. rigidifolium*.

Perennial herb, 15–55 cm high. *Trichomes* glandular, 0.15–0.2 mm long, stalks yellowish, heads red-black to black, disciform; eglandular trichomes absent. *Stems* compact, sitting at or just above ground level, adventitious roots present but inconspicuous. *Leaves* rosulate, erect to spreading, oblanceolate to spatulate, flat in T.S., apex acute to acuminate, margin entire, 1.5–4 cm long, 1.5–6 mm wide, glabrous, striate, \pm glaucous. *Scapes* (8–)15–55 cm high, 0.7–3 mm wide, with a whorl of sterile bracts positioned 5–15 cm below the inflorescence, glabrous at base, sparingly glandular along the inflorescence axis; sterile bracts 3–14 mm long, glabrous. *Inflorescence* racemose, (3–)7–33-flowered, glaucous; bracts subulate, apex subacute, margin entire, 3–6.5 mm long, glabrous; bracteoles similar but smaller; pedicels 2–8 mm long, sparingly glandular. *Hypanthium* clavoid to oblong, slightly compressed in T.S., (1.5–)2.5–4 mm long, 0.8–1.2 mm wide, glabrous. *Calyx lobes* free, apex obtuse to subacute, margin entire, 3–5 mm long, 0.8–1.5 mm wide, glabrous. *Corolla* pale yellow with maroon throat markings, stained maroon on reverse, glabrous, tube 1–2 mm long; lobes laterally-paired, narrowly ovate to ovate, 4.5–5.6 mm long, 2.7–3.7 mm wide. *Labellum* twisted across the calyx lobes; boss yellow, ovate, margin entire, 0.6–0.8 mm long, 0.5–0.6 mm wide, glabrous; terminal appendage maroon, 0.4–0.7 mm long; lateral appendages yellow, 0.1–0.2 mm long or absent. *Throat appendages* 8, oblong, 0.4–0.8 mm high, yellow, subtended by 3 yellow mounds. *Column* 12–15 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* clavoid, *c.* 4–5.5 mm long. (Figures 3D, E)

Selected specimens (17 examined). WESTERN AUSTRALIA: [localities withheld] 23 Oct. 1967, S. Carlquist 3875 (MEL, PERTH, RSA); 11 Oct. 2003, F. & J. Hort 2058 (PERTH); 16 Oct. 2002, J.A. Wege & F. Hort JAW 672 (CANB, MEL, PERTH); 24 Oct. 2006, J.A. Wege 1375 (AD, PERTH).

Distribution. A narrow range endemic of the Darling Range, east of Perth (Figure 4).

Habitat. Growing in gravelly, brown, clayey sand or sandy loam over laterite on hillslopes and flats on the Darling Range. Recorded from *Eucalyptus marginata* and *Corymbia calophylla* forest, *E. marginata* and *Banksia menziesii* open woodland, open woodland with *E. accedens* and either *E. drummondii* or *C. calophylla*, and *Dryandra armata* heath with fringing *E. marginata* forest.

Phenology. Flowering during October and November.

Conservation status. *Stylidium striatum* is geographically restricted but not currently threatened. Listed as Priority Four under DEC Conservation Codes for Western Australian Flora (Atkins 2006).

Chromosome number. James (1979) recorded a count of $n = 10$ from a population in the Darling Range (PERTH 07528353), under the name *S. rigidifolium*.

Typification. The name *S. striatum* has long been misapplied in Western Australia to a member of the *S. brunonianum* complex presently referred to as *S. neurophyllum* Wege ms in FloraBase (Western Australian Herbarium 1998–). The holotype of *S. striatum* unmistakably conforms to the concept presented herein and clearly matches the type of *S. rigidifolium*. The lectotype of *S. rigidifolium*, chosen in view of the destruction of the *Stylidium* holdings at the Botanical Museum in Berlin during World War II, bears the annotation of Mildbraed.

Spotting features. A compact rosette of erect to spreading leaves that are oblanceolate or spatulate, glabrous and distinctly striate; yellow flowers arranged in racemes.

Affinities. *Stylidium striatum* is such a distinctive triggerplant that I am uncertain as to its precise affinities. It is perhaps best compared to *S. lineatum* Sond., a species that is also recorded for the Darling Range and similarly possesses a robust, rosulate habit, striate leaves, yellow flowers arranged in racemes, eight throat appendages and clavoid capsules. Unlike *S. striatum*, the leaves of *S. lineatum* are glandular and adpressed to the soil surface, the scape is glandular at the base but glabrous in the upper half and bears scattered sterile bracts, the flowers tend to lack markings (if present they are relatively inconspicuous), and the throat appendages closest to the labellum are conspicuously longer (1.5–2 mm long) than the remaining six appendages.

Stylidium zeicolor F.L.Erickson & J.H.Willis, *Muelleria* 1(1): 15 (1956). *Type:* Bolgart, Western Australia, 29 September 1953, R. Erickson s.n. (*holo:* MEL 2295048!; *iso:* K 000355321!, MEL 2295049!, PERTH 01642529!, PERTH 02948974!, PERTH 01642510!).

Illustrations. Erickson & Willis (1956) p. 20, t. 3, Figures 1–11, as *S. squamellosum*; Erickson (1958) p. 136, t. 39, Figures 1–11, as *S. squamellosum*; Grieve & Blackall (1982) p. 749, No. 60, as *S. squamellosum*.

Tufted perennial herb, 12–40(–50) cm high. *Trichomes* glandular, 0.1–0.6 mm long, stalks translucent to yellowish, heads yellowish-red to brown-black, disciform or subglobose to turbinate; eglandular trichomes absent. *Stems* somewhat condensed to shortly elongated, stilt roots present. *Leaves* rosulate, erect, linear to broadly linear or narrowly oblanceolate, flat in T.S., apex subacute, margin entire, 2–6 cm long, 0.8–2(–3) mm wide, glandular along margin and abaxial midrib, often sparingly so. *Scapes* 12–38 cm high, 0.6–2.2 mm wide, bearing scattered sterile bracts, glabrous at base, sparingly glandular along inflorescence axis; sterile bracts 2.5–8 mm long, glabrous. *Inflorescence* racemose, 4–35-flowered; bracts narrowly ovate to subulate, apex obtuse to subacute, margin entire, 2–6 mm long, glabrous; bracteoles 1–3 mm long, glabrous; pedicels 4–17 mm long, glandular. *Hypanthium* clavoid to obloid, slightly compressed in T.S., 2.5–6 mm long, 0.8–1.5 mm wide, glabrous. *Calyx lobes* free, apex obtuse to subacute, margin entire, 2.8–5 mm long, 0.7–1.2 mm wide, glabrous. *Corolla* pale yellow, without markings, glabrous, tube 1–2 mm long; lobes laterally-paired, elliptic to oblong, 4.5–7 mm long, 2.8–3.5 mm wide. *Labellum* twisted across the calyx lobes; boss yellow, orbicular to ovate, margin entire, 0.6–1 mm long, 0.6–0.8 mm wide, glabrous; terminal appendage yellow, 0.2–0.9 mm long; lateral appendages yellow, 0.1–0.5 mm long. *Throat appendages* 8, tooth-like or subulate, entire, bi- or tri-dentate, 0.2–1.2 mm high, yellow, subtended by 3 yellow mounds. *Column* 14–17.5 mm long; anther locules parallel to column axis, subtending hairs absent; stigma sessile, entire. *Capsules* clavoid to obloid, 5–7 mm long. (Figures 3F, G)

Selected specimens (100 examined). WESTERN AUSTRALIA: One Mile Rocks, Sep. 1970, *A.A. Burbidge s.n.* (PERTH); N side of Tutanning Reserve, E of Pingelly, 9 Oct. 1974, *S. Carlquist* 5959 (PERTH, RSA); c. 10 km E from South Kumminin along South Kumminin East road, 4 Nov. 1992, *A.M. Lyne, L. Craven & F. Zich* AML 1023 (CANB, NSW, PERTH); c. 3 km from Quairading, along road to Tammin, 26 Oct. 1983, *P.S. Short* 2228 (MEL, PERTH); c. 1 km W from wheat bin along track S of railway, Tarin Rock Nature Reserve, 14 Oct. 2003, *J.A. Wege & C. Wilkins* JAW 962 (PERTH); 15 km NW of track to Whalebone Beach on Hamersley Drive, Fitzgerald River National Park, 25 Oct. 2003, *J.A. Wege & C. Wilkins* JAW 1024 (MEL, PERTH).

Distribution. A common plant in wheatbelt reserves, from near Calingiri south to the Woodanilling area, and east to Frank Hann National Park and Fitzgerald River National Park (Figure 4).

Habitat. Growing on hillslopes and plains in sand, sandy loam or sandy clay over laterite or granite. Noted to occur in a variety of vegetation types including open mallee shrubland, *Eucalyptus wandoo* woodland, *E. loxophleba* woodland with *Acacia acuminata*, dense *Allocasuarina campestris* shrubland or thicket, and low heath.

Phenology. Flowering from late September to November.

Conservation status. A widespread and common species represented in many conservation reserves. No conservation code is required.

Chromosome number. James (1979) recorded a chromosome number of $n = 11$ from three populations spanning the geographical range of this taxon (PERTH 02948796, PERTH 02948788, PERTH 02949008, PERTH 02948818), under the name *S. squamellosum*.

Spotting features. A stilted habit; tufted leaves with glandular margins; glabrous scapes bearing scattered bracts; yellow flowers; 8 irregular throat appendages; a long column (14–17.5 mm); clavoid capsules.

Affinities. A comparison to the morphologically similar *S. squamellosum* is given under the affinities for that species. *Stylidium zeicolor* may be confused with *S. clavatum* in the south of its range. Distinguishing features are provided under *S. clavatum*.

Notes. A specimen from near Toodyay (*T.R. Lally & B.J. Lepschi* TRL 794) is unusual in having sparingly glandular scapes. It otherwise appears referable to *S. zeicolor*.

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